

# Hydric Soils

Cottonwood County, Minnesota

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1007: Udorthents, shallow (sanitary landfill)	Udorthents, shallow, sanitary landfill	100	Moraines	No	---
1010: Pits, quarry	Pits, quarry	100	Moraines	Unranked	---
1024A: Havelock clay loam, 0 to 2 percent slopes, occasionally flooded	Havelock, occasionally flooded	80	Flood plains	Yes	2B3
	Havelock, frequently flooded	10	Flood plains	Yes	2B3, 4
	Spillco, occasionally flooded	5	Flood plains	No	---
	Comfrey, occasionally flooded	3	Flood plains	Yes	2B3
	Calco, occasionally flooded	2	Flood plains	Yes	2B3
1055: Aquents (disturbed land), ponded-Udorthents, loamy complex	Aquents, ponded	55	Moraines	Yes	2B3, 3
	Udorthents, loamy (cut and fill land)	40	Moraines	No	---
	Aquolls, ponded	5	Moraines	Yes	2B3, 3
GP: Pits, gravel-Udipsamments complex	Pits, gravel	80	Outwash plains, Stream terraces	Unranked	---
	Udipsamments	20	Outwash plains, Stream terraces	Unranked	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L5A:</b>					
Delft, overwash-Delft complex, 1 to 4 percent slopes	Delft, overwash	45	Moraines	No	---
	Delft	35	Moraines	Yes	2B3
	Delft, frequently flooded	7	Moraines	Yes	2B3
	Glencoe, depressional	4	Moraines	Yes	2B3, 3
	Terril	4	Moraines	No	---
	Poorly drained soils	3	Moraines	Yes	2B3
	Canisteo	2	Moraines	Yes	2B3
<b>L6A:</b>					
Biscay loam, 0 to 2 percent slopes	Biscay	85	Outwash plains, Stream terraces	Yes	2B3
	Biscay, depressional	8	Outwash plains, Stream terraces	Yes	2B3, 3
	Mayer	5	Outwash plains, Stream terraces	Yes	2B3
	Cylinder	2	Outwash plains, Stream terraces	No	---
<b>L7A:</b>					
Biscay loam, depressional, 0 to 1 percent slopes	Biscay, depressional	80	Outwash plains	Yes	2B3, 3
	Biscay	14	Outwash plains	Yes	2B3
	Mayer	5	Outwash plains	Yes	2B3
	Shandep, depressional	1	Outwash plains	Yes	2B3, 3
<b>L16A:</b>					
Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes	Blue Earth, ponded	30	Marshes, Moraines	Yes	2B3, 3
	Houghton, ponded	30	Marshes, Moraines	Yes	1, 3
	Muskego, ponded	30	Marshes, Moraines	Yes	1, 3
	Klossner, ponded	10	Marshes	Yes	1, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L46B:</b>					
Tomall loam, 2 to 6 percent slopes	Tomall	85	Outwash plains	No	---
	Linder	10	Outwash plains	No	---
	Biscay	2	Outwash plains	Yes	2B3
	Shandep	2	Outwash plains	Yes	2B3
	Estherville	1	Outwash plains	No	---
<b>L65B:</b>					
Augusta Lake fine sandy loam, 1 to 6 percent slopes	Augusta Lake	85	Moraines	No	---
	Ocheyedan	8	Moraines	No	---
	Dickinson, loamy substratum	3	Moraines	No	---
	Grogan	2	Moraines	No	---
	Lowlein	2	Moraines	No	---
<b>L66B:</b>					
Bechyn-Germantown-Rock outcrop complex, 2 to 6 percent slopes	Bechyn	35	Moraines	No	---
	Germantown	30	Moraines	No	---
	Rock outcrop	30	Moraines	Unranked	---
	Annton	2	Moraines	No	---
	Soils deep to bedrock	2	Moraines	No	---
	Little Cottonwood	1	Moraines	Yes	2B3

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<b>L66C:</b>					
Bechyn-Germantown-Rock outcrop complex, 6 to 12 percent slopes	Bechyn	35	Moraines	No	---
	Germantown	30	Moraines	No	---
	Rock outcrop	30	Moraines	Unranked	---
	Annton	2	Moraines	No	---
	Soils deep to bedrock	2	Moraines	No	---
	Little Cottonwood	1	Moraines	Yes	2B3
<b>L67B:</b>					
Crooksford silt loam, 1 to 5 percent slopes	Crooksford	80	Moraines	No	---
	Clarion	10	Moraines	No	---
	Nicollet	5	Moraines	No	---
	Chetomba	2	Moraines	Yes	2B3
	Truman	2	Moraines	No	---
	Swanlake	1	Moraines	No	---
<b>L68B:</b>					
Germantown clay loam, 1 to 8 percent slopes	Germantown	80	Moraines	No	---
	Soils deep to bedrock	7	Moraines	No	---
	Bechyn	5	Moraines	No	---
	Annton	3	Moraines	No	---
	Rock outcrop	3	Moraines	Unranked	---
	Mound Creek	2	Moraines	Yes	2B3

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<b>L69B:</b>					
Grogan silt loam, 1 to 6 percent slopes	Grogan	88	Moraines	No	---
	Augusta Lake	3	Moraines	No	---
	Ocheyedan	3	Moraines	No	---
	Clarion	2	Moraines	No	---
	Madelia	2	Moraines	Yes	2B3
	Soils that are calcareous	2	Moraines	No	---
<b>L73A:</b>					
Blue Earth mucky silty clay loam, depressional, 0 to 1 percent slopes	Blue Earth, depressional	80	Moraines	Yes	2B3, 3
	Canisteo	10	Moraines	Yes	2B3
	Belleville	5	Moraines	Yes	2B3
	Essexville	5	Moraines	Yes	2B3
<b>L74A:</b>					
Estherville sandy loam, 0 to 2 percent slopes	Estherville, terrace	87	Stream terraces	No	---
	Hawick	10	Stream terraces	No	---
	Biscay	3	Stream terraces	Yes	2B3
<b>L76E:</b>					
Dickinson fine sandy loam, 18 to 30 percent slopes	Dickinson	85	Stream terraces	No	---
	Dickman	8	Stream terraces	No	---
	Estherville	5	Stream terraces	No	---
	Farrar	2	Stream terraces	No	---

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<b>L78A:</b>					
Canisteo clay loam, 0 to 2 percent slopes	Canisteo	65	Moraines	Yes	2B3
	Crippin	10	Moraines	No	---
	Glencoe, depressional	10	Moraines	Yes	2B3, 3
	Canisteo, depressional	5	Moraines	Yes	2B3, 3
	Harps	5	Moraines	Yes	2B3
	Webster	5	Moraines	Yes	2B3
<b>L79B:</b>					
Clarion loam, 2 to 5 percent slopes	Clarion	70	Moraines	No	---
	Clarion, moderately eroded	14	Moraines	No	---
	Nicollet	9	Moraines	No	---
	Ocheyedan	5	Moraines	No	---
	Webster	2	Moraines	Yes	2B3
<b>L82A:</b>					
Marna silty clay loam, 0 to 2 percent slopes	Marna	85	Lake plains	Yes	2B3
	Barbert	10	Lake plains	Yes	2B3, 3
	Guckeen	5	Lake plains	No	---
<b>L83A:</b>					
Webster clay loam, 0 to 2 percent slopes	Webster	65	Moraines	Yes	2B3
	Glencoe, depressional	14	Moraines	Yes	2B3, 3
	Canisteo	8	Moraines	Yes	2B3
	Nicollet	8	Moraines	No	---
	Poorly drained soils	5	Moraines	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L84A:</b>					
Glencoe clay loam, depressional, 0 to 1 percent slopes	Glencoe, depressional	80	Moraines	Yes	2B3, 3
	Very poorly drained muck	10	Moraines	Yes	2B3, 3
	Canisteo	5	Moraines	Yes	2B3
	Harps	5	Moraines	Yes	2B3
<b>L85A:</b>					
Nicollet clay loam, 1 to 3 percent slopes	Nicollet	85	Moraines	No	---
	Clarion	10	Moraines	No	---
	Webster	5	Moraines	Yes	2B3
<b>L86A:</b>					
Madelia silty clay loam, 0 to 2 percent slopes	Madelia	90	Lake plains	Yes	2B3
	Okoboji	5	Lake plains	Yes	2B3, 3
	Spicer	3	Lake plains	Yes	2B3
	Kingston	2	Lake plains	No	---
<b>L87A:</b>					
Kingston silty clay loam, 1 to 3 percent slopes	Kingston	85	Lake plains	No	---
	Truman	8	Lake plains	No	---
	Madelia	5	Lake plains	Yes	2B3
	Lakefield	2	Lake plains	No	---
<b>L88A:</b>					
Lura silty clay, depressional, 0 to 1 percent slopes	Lura, depressional	85	Lake plains	Yes	2B3, 3
	Brownton	7	Lake plains	Yes	2B3
	Depressional soils that have an organic surface layer	5	Lake plains	Yes	2B3, 3
	Prinsburg	3	Lake plains	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L89A:</b>					
Guckeen silty clay loam, 0 to 3 percent slopes	Guckeen	75	Moraines	No	---
	Marna	10	Moraines	Yes	2B3
	Nicollet	10	Moraines	No	---
	Clarion	5	Moraines	No	---
<b>L94A:</b>					
Lowlein fine sandy loam, terrace, 0 to 3 percent slopes	Lowlein, terrace	75	Stream terraces	No	---
	Linder	15	Stream terraces	No	---
	Dickinson	8	Stream terraces	No	---
	Darfur	2	Stream terraces	Yes	2B3
<b>L95E:</b>					
Hawick gravelly coarse sandy loam, 12 to 25 percent slopes	Hawick	80	Outwash plains	No	---
	Estherville	10	Outwash plains	No	---
	Tomall	10	Outwash plains	No	---
<b>L96B:</b>					
Estherville-Hawick complex, 2 to 6 percent slopes	Estherville	55	Outwash plains, Stream terraces	No	---
	Hawick	35	Outwash plains, Stream terraces	No	---
	Tomall	8	Outwash plains, Stream terraces	No	---
	Biscay	2	Outwash plains, Stream terraces	Yes	2B3
<b>L97C:</b>					
Hawick-Estherville complex, 6 to 12 percent slopes	Hawick	60	Outwash plains, Stream terraces	No	---
	Estherville	30	Outwash plains, Stream terraces	No	---
	Tomall	10	Outwash plains, Stream terraces	No	---



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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L98A:</b>					
Crippin-Nicollet complex, 1 to 3 percent slopes	Crippin	50	Moraines	No	---
	Nicollet	40	Moraines	No	---
	Canisteo	5	Moraines	Yes	2B3
	Clarion	5	Moraines	No	---
<b>L99B:</b>					
Clarion-Swanlake complex, 2 to 6 percent slopes	Clarion	62	Moraines	No	---
	Swanlake	25	Moraines	No	---
	Nicollet	10	Moraines	No	---
	Webster	3	Moraines	Yes	2B3
<b>L102C2:</b>					
Omsrud-Storden complex, 6 to 12 percent slopes, moderately eroded	Omsrud, moderately eroded	45	Moraines	No	---
	Storden, moderately eroded	24	Moraines	No	---
	Omsrud	14	Moraines	No	---
	Terril	10	Moraines	No	---
	Delft	5	Moraines	Yes	2B3
	Crooksford	2	Moraines	No	---
<b>L102D2:</b>					
Omsrud-Storden complex, 12 to 18 percent slopes, moderately eroded	Omsrud, moderately eroded	45	Moraines	No	---
	Storden, moderately eroded	20	Moraines	No	---
	Omsrud	14	Moraines	No	---
	Ridgeton	9	Moraines	No	---
	Delft	6	Moraines	Yes	2B3
	Terril	6	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L104A:</b>					
Jeffers-Canisteo complex, 0 to 2 percent slopes	Jeffers, friable till substratum	50	Moraines	Yes	2B3
	Canisteo	30	Moraines	Yes	2B3
	Glencoe, depressional	10	Moraines	Yes	2B3, 3
	Crippin	5	Moraines	No	---
	Webster	4	Moraines	Yes	2B3
	Revere	1	Moraines	Yes	2B3
<b>L107A:</b>					
Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes	Canisteo	50	Moraines	Yes	2B3
	Glencoe, depressional	35	Moraines	Yes	2B3, 3
	Harps	10	Moraines	Yes	2B3
	Canisteo, depressional	3	Moraines	Yes	2B3, 3
	Crippin	2	Moraines	No	---
<b>L111A:</b>					
Nicollet silty clay loam, 1 to 3 percent slopes	Nicollet	80	Moraines	No	---
	Okabena	14	Moraines	No	---
	Clarion	4	Moraines	No	---
	Webster	2	Moraines	Yes	2B3
<b>L112A:</b>					
Webster silty clay loam, 0 to 2 percent slopes	Webster	80	Moraines	Yes	2B3
	Chetomba	10	Moraines	Yes	2B3
	Glencoe, depressional	6	Moraines	Yes	2B3, 3
	Canisteo	2	Moraines	Yes	2B3
	Nicollet	2	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L129B:</b>					
Terril loam, 2 to 6 percent slopes	Terril	90	Moraines	No	---
	Clarion	5	Moraines	No	---
	Delft	5	Moraines	Yes	2B3
<b>L135A:</b>					
Okabena silty clay loam, 1 to 3 percent slopes	Okabena	85	Moraines	No	---
	Kingston	5	Moraines	No	---
	Nicollet	4	Moraines	No	---
	Chetomba	2	Moraines	Yes	2B3
	Ocheda	2	Moraines	No	---
	Waldorf	2	Moraines	Yes	2B3
<b>L141A:</b>					
Spillville loam, 0 to 2 percent slopes, occasionally flooded	Spillville, occasionally flooded	86	Flood plains	No	---
	Coland, occasionally flooded	8	Flood plains	Yes	2B3
	Hanlon, occasionally flooded	4	Flood plains	No	---
	Havelock, occasionally flooded	2	Flood plains	Yes	2B3
<b>L142A:</b>					
Jeffers clay loam, 0 to 2 percent slopes	Jeffers	85	Moraines	Yes	2B3
	Romnell, depressional	10	Moraines	Yes	2B3, 3
	Moines	2	Moraines	No	---
	Pell Creek	2	Moraines	Yes	2B3
	Revere, firm till substratum	1	Moraines	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L143A:</b>					
Linder loam, 0 to 2 percent slopes	Linder	85	Outwash plains, Stream terraces	No	---
	Minneopa	5	Outwash plains, Stream terraces	No	---
	Biscay	3	Outwash plains, Stream terraces	Yes	2B3
	Estherville	3	Outwash plains, Stream terraces	No	---
	Dickinson	2	Outwash plains, Stream terraces	No	---
	Tomall	2	Outwash plains, Stream terraces	No	---
<b>L144A:</b>					
Chetomba silty clay loam, 0 to 2 percent slopes	Chetomba	75	Moraines	Yes	2B3
	Waldorf	13	Moraines	Yes	2B3
	Webster	5	Moraines	Yes	2B3
	Okoboji, depressional	3	Moraines	Yes	2B3, 3
	Prinsburg	3	Moraines	Yes	2B3
	Okabena	1	Moraines	No	---
<b>L147A:</b>					
Little Cottonwood clay loam, 0 to 3 percent slopes	Little Cottonwood	85	Moraines	Yes	2B3
	Mound Creek	10	Moraines	Yes	2B3
	Delft	3	Moraines	Yes	2B3
	Bechyn	1	Moraines	No	---
	Rock outcrop	1	Moraines	Unranked	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L148A:</b>					
Lowlein sandy loam, 1 to 3 percent slopes	Lowlein	78	Moraines	No	---
	Augusta Lake	14	Moraines	No	---
	Webster	3	Moraines	Yes	2B3
	Dickman	2	Moraines	No	---
	Nicollet	2	Moraines	No	---
	Dickinson, loamy substratum	1	Moraines	No	---
<b>L149A:</b>					
Romnell clay loam, 0 to 3 percent slopes	Romnell	85	Moraines	Yes	2B3
	Soils that have more clay, depressional	5	Moraines	Yes	2B3, 3
	Pell Creek	4	Moraines	Yes	2B3
	Romnell, depressional	4	Moraines	Yes	2B3, 3
	Jeffers	2	Moraines	Yes	2B3
<b>L150A:</b>					
Prinsburg silty clay loam, 0 to 2 percent slopes	Prinsburg	75	Lake plains, Moraines	Yes	2B3
	Chetomba	14	Lake plains, Moraines	Yes	2B3
	Webster	4	Lake plains, Moraines	Yes	2B3
	Canisteo	3	Lake plains, Moraines	Yes	2B3
	Okabena	2	Lake plains, Moraines	No	---
	Okoboji, depressional	2	Lake plains, Moraines	Yes	2B3, 3
<b>L151A:</b>					
Glencoe mucky silty clay loam, ponded, 0 to 1 percent slopes	Glencoe, ponded	80	Moraines	Yes	2B3, 3
	Okoboji, ponded	14	Moraines	Yes	2B3, 3
	Klossner, ponded	6	Moraines	Yes	1, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L152B:</b>					
Lowlein-Round Lake complex, 1 to 6 percent slopes	Lowlein	60	Moraines	No	---
	Round Lake	20	Moraines	No	---
	Nicollet	12	Moraines	No	---
	Farrar	6	Moraines	No	---
	Webster	2	Moraines	Yes	2B3
<b>L153A:</b>					
Essexville sandy loam, 0 to 2 percent slopes	Essexville	85	Moraines	Yes	2B3
	Canisteo	5	Moraines	Yes	2B3
	Glencoe, depressional	4	Moraines	Yes	2B3, 3
	Belleville	3	Moraines	Yes	2B3
	Very poorly drained soils in depressions	2	Moraines	Yes	2B3, 3
	Somewhat poorly drained soils	1	Moraines	No	---
<b>L154E:</b>					
Belview-Ridgeton complex, 15 to 45 percent slopes	Belview	60	Moraines	No	---
	Ridgeton	22	Moraines	No	---
	Omsrud	14	Moraines	No	---
	Delft	2	Moraines	Yes	2B3
	Terril	2	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L156C2:</b>					
Omsrud-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded	Omsrud, moderately eroded	44	Moraines	No	---
	Storden, moderately eroded	24	Moraines	No	---
	Pilot Grove	20	Moraines	No	---
	Hawick	8	Moraines	No	---
	Delft	2	Moraines	Yes	2B3
	Terril	2	Moraines	No	---
<b>L156D2:</b>					
Omsrud-Storden-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded	Omsrud, moderately eroded	50	Moraines	No	---
	Storden, moderately eroded	25	Moraines	No	---
	Pilot Grove	15	Moraines	No	---
	Hawick	4	Moraines	No	---
	Delft	2	Moraines	Yes	2B3
	Ridgeton	2	Moraines	No	---
	Terril	2	Moraines	No	---
<b>L158B:</b>					
Round Lake sandy loam, 1 to 6 percent slopes	Round Lake	80	Moraines	No	---
	Lowlein	13	Moraines	No	---
	Ocheyedan	3	Moraines	No	---
	Estherville	2	Moraines	No	---
	Webster	2	Moraines	Yes	2B3

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<b>L159A:</b>					
Knoke mucky silty clay loam, depressional, 0 to 1 percent slopes	Knoke, depressional	85	Moraines	Yes	2B3, 3
	Okoboji, depressional	5	Moraines	Yes	2B3, 3
	Essexville	4	Moraines	Yes	2B3
	Canisteo, depressional	3	Moraines	Yes	2B3, 3
	Canisteo	3	Moraines	Yes	2B3
<b>L160B:</b>					
Dickinson sandy loam, loamy substratum, 1 to 6 percent slopes	Dickinson, loamy substratum	85	Moraines	No	---
	Farrar	8	Moraines	No	---
	Lowlein	7	Moraines	No	---
<b>L161C:</b>					
Estherville-Pilot Grove complex, 6 to 12 percent slopes	Estherville	38	Moraines	No	---
	Pilot Grove	38	Moraines	No	---
	Well drained soils	14	Moraines	No	---
	Hawick	6	Moraines	No	---
	Delft	2	Moraines	Yes	2B3
	Terril	2	Moraines	No	---
<b>L162B:</b>					
Clarion-Round Lake complex, 2 to 6 percent slopes	Clarion	45	Moraines	No	---
	Round Lake	30	Moraines	No	---
	Estherville	8	Moraines	No	---
	Lowlein	5	Moraines	No	---
	Nicollet	5	Moraines	No	---
	Swanlake	5	Moraines	No	---
	Webster	2	Moraines	Yes	2B3



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<b>L163A:</b>					
Okoboji silty clay loam, depressional, 0 to 1 percent slopes	Okoboji, depressional	92	Moraines	Yes	2B3, 3
	Canisteo	2	Moraines	Yes	2B3
	Harpster	2	Moraines	Yes	2B3
	Knoke, depressional	2	Moraines	Yes	2B3, 3
	Prinsburg	2	Moraines	Yes	2B3
<b>L165A:</b>					
Mayer loam, 0 to 2 percent slopes	Mayer	85	Outwash plains, Stream terraces	Yes	2B3
	Biscay	5	Outwash plains, Stream terraces	Yes	2B3
	Regal	5	Outwash plains, Stream terraces	Yes	2B3
	Biscay, depressional	2	Outwash plains, Stream terraces	Yes	2B3, 3
	Harcot	2	Outwash plains, Stream terraces	Yes	2B3
	Linder	1	Outwash plains, Stream terraces	No	---
<b>L167A:</b>					
Mayer clay loam, depressional , 0 to 1 percent slopes	Mayer, depressional	85	Outwash plains, Stream terraces	Yes	2B3, 3
	Biscay, depressional	10	Outwash plains, Stream terraces	Yes	2B3, 3
	Mayer	3	Outwash plains, Stream terraces	Yes	2B3
	Biscay	2	Outwash plains, Stream terraces	Yes	2B3

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L168A:					
Minneopa sandy loam, 0 to 3 percent slopes	Minneopa	85	Outwash plains, Stream terraces	No	---
	Estherville	6	Outwash plains, Stream terraces	No	---
	Well drained soils	3	Outwash plains, Stream terraces	No	---
	Biscay	2	Outwash plains, Stream terraces	Yes	2B3
	Linder	2	Outwash plains, Stream terraces	No	---
	Tomall	2	Outwash plains, Stream terraces	No	---
L169A:					
Minneopa sandy loam, sandy substratum, 0 to 3 percent slopes	Minneopa, sandy substratum	85	Outwash plains, Stream terraces	No	---
	Dickman	5	Outwash plains, Stream terraces	No	---
	Linder	5	Outwash plains, Stream terraces	No	---
	Hanska	3	Outwash plains	Yes	2B3
	Dickinson	2	Outwash plains, Stream terraces	No	---
L170B:					
Estherville-Round Lake complex, 2 to 6 percent slopes	Estherville	50	Moraines	No	---
	Round Lake	45	Moraines	No	---
	Lowlein	3	Moraines	No	---
	Poorly drained soils	2	Moraines	Yes	2B3

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L172D2:</b>					
Storden, firm till-Annton complex, 12 to 18 percent slopes, moderately eroded	Storden, moderately eroded, firm till	45	Moraines	No	---
	Annton, moderately, eroded	40	Moraines	No	---
	Ridgeton	6	Moraines	No	---
	Coland, frequently flooded	5	Flood plains	Yes	2B3, 4
	Romnell	2	Moraines	Yes	2B3
	Terril, firm till substratum	2	Moraines	No	---
<b>L173A:</b>					
Moines clay loam, 1 to 3 percent slopes	Moines	85	Moraines	No	---
	Jeffers	8	Moraines	Yes	2B3
	Walnut Grove	5	Moraines	No	---
	Romnell, depressional	2	Moraines	Yes	2B3, 3
<b>L174A:</b>					
Mound Creek clay loam, 0 to 2 percent slopes	Mound Creek	85	Moraines	Yes	2B3
	Little Cottonwood	8	Moraines	Yes	2B3
	Delft	6	Moraines	Yes	2B3
	Germantown	1	Moraines	No	---
<b>L175A:</b>					
Rolfe silt loam, depressional, 0 to 1 percent slopes	Rolfe, depressional	90	Moraines	Yes	2B3, 3
	Glencoe, depressional	6	Moraines	Yes	2B3, 3
	Webster	4	Moraines	Yes	2B3

## Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L176A:</b>					
Shandep clay loam, 0 to 2 percent slopes, occasionally flooded	Shandep, occasionally flooded	80	Flood plains	Yes	2B3
	Biscay, occasionally flooded	12	Flood plains	Yes	2B3
	Havelock, occasionally flooded	3	Flood plains	Yes	2B3
	Coland, occasionally flooded	2	Flood plains	Yes	2B3
	Minneopa, occasionally flooded	2	Flood plains	No	---
	Southbrook, occasionally flooded	1	Flood plains	Yes	2B3
<b>L178A:</b>					
Mayer mucky clay loam, ponded, 0 to 1 percent slopes	Mayer, ponded	78	Outwash plains, Stream terraces	Yes	2B3, 3
	Shandep, ponded	8	Outwash plains, Stream terraces	Yes	2B3, 3
	Biscay, ponded	7	Outwash plains, Stream terraces	Yes	2B3, 3
	Blue Earth, ponded	5	Outwash plains, Stream terraces	Yes	2B3, 3
	Very poorly drained soils, ponded	2	Outwash plains, Stream terraces	Yes	2B3, 3

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L183A: Mayer, ponded-Mayer complex, 0 to 2 percent slopes, flooded	Mayer, frequently flooded, ponded	50	Flood plains	Yes	2B3, 3, 4
	Mayer, occasionally flooded	40	Flood plains	Yes	2B3
	Biscay, frequently flooded, ponded	5	Flood plains	Yes	2B3, 3, 4
	Linder, occasionally flooded	2	Flood plains	No	---
	Shandep, frequently flooded, ponded	2	Flood plains	Yes	2B3, 3, 4
	Soils with a mucky surface layer, frequently flooded, ponded	1	Flood plains	Yes	2B3, 3, 4
L188A: Romnell clay loam, depressional, 0 to 1 percent slopes	Romnell, depressional	85	Moraines	Yes	2B3, 3
	Jeffers	5	Moraines	Yes	2B3
	Soils that have more clay, depressional	5	Moraines	Yes	2B3, 3
	Pell Creek	3	Moraines	Yes	2B3
	Romnell	2	Moraines	Yes	2B3
L189A: Mayer clay loam, ponded, 0 to 1 percent slopes, frequently flooded	Mayer, frequently flooded, ponded	75	Flood plains	Yes	2B3, 3, 4
	Mayer, occasionally flooded	10	Flood plains	Yes	2B3
	Shandep, frequently flooded, ponded	6	Flood plains	Yes	2B3, 3, 4
	Biscay, occasionally flooded	4	Flood plains	Yes	2B3
	Soils with a mucky surface layer, frequently flooded, ponded	4	Flood plains	Yes	2B3, 3, 4
	Linder, occasionally flooded	1	Flood plains	No	---

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L193A:</b>					
Shandep clay loam, 0 to 2 percent slopes, frequently flooded	Shandep, frequently flooded	80	Flood plains	Yes	2B3, 4
	Biscay, frequently flooded	14	Flood plains	Yes	2B3, 4
	Coland, frequently flooded	2	Flood plains	Yes	2B3, 4
	Havelock, frequently flooded	2	Flood plains	Yes	2B3, 4
	Minneopa, occasionally flooded	1	Flood plains	No	---
	Southbrook, frequently flooded	1	Flood plains	Yes	2B3, 4
<b>L194A:</b>					
Southbrook silty clay loam, 0 to 2 percent slopes, occasionally flooded	Southbrook, occasionally flooded	85	Flood plains	Yes	2B3
	Coland, occasionally flooded	5	Flood plains	Yes	2B3
	Zook, occasionally flooded	5	Flood plains	Yes	2B3
	Calco, occasionally flooded	3	Flood plains	Yes	2B3
	Spillville, occasionally flooded	2	Flood plains	No	---
<b>L196A:</b>					
Spicer silty clay loam, 0 to 2 percent slopes	Spicer	85	Lake plains	Yes	2B3
	Madelia	5	Lake plains	Yes	2B3
	Okoboji, depressional	4	Lake plains	Yes	2B3, 3
	Lakefield	3	Lake plains	No	---
	Prinsburg	2	Lake plains	Yes	2B3
	Kingston	1	Lake plains	No	---

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L197A:</b>					
Mayer-Mayer, depressional, complex, 0 to 2 percent slopes	Mayer	50	Outwash plains, Stream terraces	Yes	2B3
	Mayer, depressional	30	Outwash plains, Stream terraces	Yes	2B3, 3
	Shandep, depressional	10	Outwash plains, Stream terraces	Yes	2B3, 3
	Biscay, depressional	5	Outwash plains, Stream terraces	Yes	2B3, 3
	Biscay	4	Outwash plains, Stream terraces	Yes	2B3
	Linder	1	Outwash plains, Stream terraces	No	---
<b>L198A:</b>					
North Twin-Walnut Grove complex, 0 to 2 percent slopes	North Twin	70	Moraines	No	---
	Walnut Grove	20	Moraines	No	---
	Pell Creek	9	Moraines	Yes	2B3
	Romnell, depressional	1	Moraines	Yes	2B3, 3
<b>L198B:</b>					
North Twin-Walnut Grove complex, 1 to 4 percent slopes	North Twin	60	Moraines	No	---
	Walnut Grove	25	Moraines	No	---
	Pell Creek	10	Moraines	Yes	2B3
	Annton	5	Moraines	No	---
<b>L201A:</b>					
Normania loam, 1 to 3 percent slopes	Normania	85	Moraines	No	---
	Amiret	7	Moraines	No	---
	Seaforth	3	Moraines	No	---
	Webster	3	Moraines	Yes	2B3
	Canisteo	2	Moraines	Yes	2B3

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L202A:</b>					
Pell Creek-Romnell complex, 0 to 2 percent slopes	Pell Creek	55	Moraines	Yes	2B3
	Romnell	35	Moraines	Yes	2B3
	Romnell, depressional	4	Moraines	Yes	2B3, 3
	Jeffers	3	Moraines	Yes	2B3
	Walnut Grove	3	Moraines	No	---
<b>L203A:</b>					
Seaforth loam, 1 to 3 percent slopes	Seaforth	85	Moraines	No	---
	Canisteo	7	Moraines	Yes	2B3
	Amiret	2	Moraines	No	---
	Harps	2	Moraines	Yes	2B3
	Webster	2	Moraines	Yes	2B3
	Normania	1	Moraines	No	---
	Swanlake	1	Moraines	No	---
<b>L207F:</b>					
Belview-Ridgeton complex, 18 to 40 percent slopes, firm till substratum	Belview, firm till substratum	75	Moraines	No	---
	Ridgeton, firm till substratum	15	Moraines	No	---
	Coland, frequently flooded	5	Flood plains	Yes	2B3, 4
	Terril, firm till substratum	5	Moraines	No	---



# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L208B:</b>					
Swanlake-Round Lake complex, 2 to 6 percent slopes	Swanlake	45	Moraines	No	---
	Round Lake	35	Moraines	No	---
	Clarion	10	Moraines	No	---
	Estherville	5	Moraines	No	---
	Webster	3	Moraines	Yes	2B3
	Lowlein	2	Moraines	No	---
<b>L209A:</b>					
Walnut Grove-Pell Creek complex, 0 to 2 percent slopes	Walnut Grove	70	Moraines	No	---
	Pell Creek	20	Moraines	Yes	2B3
	Romnell	5	Moraines	Yes	2B3
	North Twin	2	Moraines	No	---
	Romnell, depressional	2	Moraines	Yes	2B3, 3
	Moines	1	Moraines	No	---
<b>L211B:</b>					
Amiret-Swanlake-Round Lake complex, 2 to 6 percent slopes	Amiret	35	Moraines	No	---
	Swanlake	30	Moraines	No	---
	Round Lake	20	Moraines	No	---
	Terril	8	Moraines	No	---
	Webster	5	Moraines	Yes	2B3
	Hawick	2	Moraines	No	---

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L213A: Calco silty clay loam, 0 to 2 percent slopes, frequently flooded	Calco, frequently flooded	85	Flood plains	Yes	2B3, 4
	Oshawa, frequently flooded	5	Flood plains	Yes	2B3, 3, 4
	Burr, frequently flooded	4	Flood plains	Yes	2B3
	Du Page, occasionally flooded	2	Flood plains	No	---
	Rushriver, frequently flooded	2	Flood plains	Yes	2B3, 4
	Spillville, occasionally flooded	2	Flood plains	No	---
L215A: Dickman sandy loam, 0 to 2 percent slopes	Dickman	85	Outwash plains, Stream terraces	No	---
	Linder	5	Outwash plains, Stream terraces	No	---
	Biscay	3	Outwash plains, Stream terraces	Yes	2B3
	Minneopa	3	Outwash plains, Stream terraces	No	---
	Dickinson	2	Outwash plains, Stream terraces	No	---
	Lowlein	2	Outwash plains, Stream terraces	No	---
L215B: Dickman sandy loam, 2 to 6 percent slopes	Dickman	85	Outwash plains, Stream terraces	No	---
	Linder	5	Outwash plains, Stream terraces	No	---
	Minneopa	5	Outwash plains, Stream terraces	No	---
	Biscay	3	Outwash plains, Stream terraces	Yes	2B3
	Dickinson	2	Outwash plains, Stream terraces	No	---

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L215C:</b>					
Dickman sandy loam, 6 to 12 percent slopes	Dickman	85	Outwash plains, Stream terraces	No	---
	Estherville	5	Outwash plains, Stream terraces	No	---
	Tomall	3	Outwash plains, Stream terraces	No	---
	Biscay	2	Outwash plains, Stream terraces	Yes	2B3
	Hanska	2	Outwash plains, Stream terraces	Yes	2B3
	Lowlein	2	Outwash plains, Stream terraces	No	---
	Pilot Grove	1	Outwash plains, Stream terraces	No	---
<b>L217C2:</b>					
Ves-Storden complex, 6 to 12 percent slopes, moderately eroded	Ves, moderately eroded	55	Moraines	No	---
	Storden, moderately eroded	37	Moraines	No	---
	Amiret	3	Moraines	No	---
	Terril	3	Moraines	No	---
	Delft	1	Moraines	Yes	2B3
	Normania	1	Moraines	No	---
<b>L218B:</b>					
Amiret loam, 2 to 5 percent slopes	Amiret	85	Moraines	No	---
	Normania	10	Moraines	No	---
	Swanlake	2	Moraines	No	---
	Webster	2	Moraines	Yes	2B3
	Seaforth	1	Moraines	No	---

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L219A:</b>					
Coland clay loam, 0 to 2 percent slopes, occasionally flooded	Coland, occasionally flooded	80	Flood plains	Yes	2B3
	Minneopa, occasionally flooded	8	Flood plains	No	---
	Havelock, occasionally flooded	5	Flood plains	Yes	2B3
	Shandep, occasionally flooded	5	Flood plains	Yes	2B3
	Spillville, occasionally flooded	2	Flood plains	No	---
<b>L222C2:</b>					
Ves-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded	Ves, moderately eroded	35	Moraines	No	---
	Storden, moderately eroded	30	Moraines	No	---
	Pilot Grove	25	Moraines	No	---
	Terril	6	Moraines	No	---
	Delft	2	Moraines	Yes	2B3
	Hawick	2	Moraines	No	---
<b>L223B:</b>					
Amiret-Swanlake complex, 2 to 6 percent slopes	Amiret	50	Moraines	No	---
	Swanlake	35	Moraines	No	---
	Webster	5	Moraines	Yes	2B3
	Normania	4	Moraines	No	---
	Delft	2	Moraines	Yes	2B3
	Seaforth	2	Moraines	No	---
	Terril	2	Moraines	No	---

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L224A:</b>					
Coland clay loam, 0 to 2 percent slopes, frequently flooded	Coland, frequently flooded	85	Flood plains	Yes	2B3, 4
	Havelock, frequently flooded	6	Flood plains	Yes	2B3, 4
	Minneopa, occasionally flooded	5	Flood plains	No	---
	Shandep, frequently flooded	2	Flood plains	Yes	2B3, 4
	Spillville, occasionally flooded	2	Flood plains	No	---
<b>L225B:</b>					
Annton-North Twin complex, 2 to 6 percent slopes	Annton	50	Moraines	No	---
	North Twin	30	Moraines	No	---
	Swanlake, firm till	10	Moraines	No	---
	Walnut Grove	8	Moraines	No	---
	Pell Creek	2	Moraines	Yes	2B3
<b>L226C2:</b>					
Annton-Storden, firm till, complex, 6 to 12 percent slopes, moderately eroded	Annton, moderately eroded	45	Moraines	No	---
	Storden, moderately eroded, firm till	35	Moraines	No	---
	Annton	10	Moraines	No	---
	Terril, firm till substratum	7	Moraines	No	---
	Romnell	3	Moraines	Yes	2B3
<b>L227B:</b>					
Truman silt loam, 2 to 6 percent slopes	Truman	85	Lake plains	No	---
	Kingston	10	Lake plains	No	---
	Madelia	4	Lake plains	Yes	2B3
	Bold	1	Lake plains	No	---

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L228B:</b>					
Clarion-Ocheyedan complex, 2 to 5 percent slopes	Clarion	70	Moraines	No	---
	Ocheyedan	20	Moraines	No	---
	Nicollet	8	Moraines	No	---
	Webster	2	Moraines	Yes	2B3
<b>L229A:</b>					
Romnell silty clay loam, depressional, 0 to 1 percent slopes	Romnell, depressional	80	Moraines	Yes	2B3, 3
	Soils that have more clay, depressional	15	Moraines	Yes	2B3, 3
	Jeffers	2	Moraines	Yes	2B3
	Romnell	2	Moraines	Yes	2B3
	Pell Creek	1	Moraines	Yes	2B3
<b>L230A:</b>					
Biscay clay loam, loamy substratum, 0 to 2 percent slopes	Biscay, loamy substratum	70	Moraines	Yes	2B3
	Biscay	15	Moraines	Yes	2B3
	Poorly drained soils	10	Moraines	Yes	2B3
	Biscay, depressional	3	Moraines	Yes	2B3, 3
	Mayer	1	Moraines	Yes	2B3
	Moderately well drained soils	1	Moraines	No	---

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L231A:</b>					
Mayer clay loam, loamy substratum, 0 to 2 percent slopes	Mayer, loamy substratum	70	Moraines	Yes	2B3
	Mayer	15	Moraines	Yes	2B3
	Coriff	8	Moraines	Yes	2B3
	Biscay, depressional	3	Moraines	Yes	2B3, 3
	Biscay	2	Moraines	Yes	2B3
	Poorly drained soils	2	Moraines	Yes	2B3
<b>L232A:</b>					
Havelock clay loam, sandy substratum, 0 to 2 percent slopes, rarely flooded	Havelock, sandy substratum, rarely flooded	85	Flood plains	Yes	2B3
	Havelock, rarely flooded	8	Flood plains	Yes	2B3
	Riverston, rarely flooded	3	Flood plains	Yes	2B3
	Shandep, rarely flooded	2	Flood plains	Yes	2B3
	Spillville, rarely flooded	2	Flood plains	No	---
<b>L233A:</b>					
Lakefield silty clay loam, 0 to 3 percent slopes	Lakefield	90	Lake plains	No	---
	Corwith	4	Lake plains	No	---
	Kingston	2	Lake plains	No	---
	Spicer	2	Lake plains	Yes	2B3
	Madelia	1	Lake plains	Yes	2B3
	Truman	1	Lake plains	No	---

## Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L234A:</b>					
Romnell silty clay loam, ponded, 0 to 1 percent slopes	Romnell, ponded	80	Moraines	Yes	2B3, 3
	Soils that have more clay, ponded	15	Moraines	Yes	2B3, 3
	Jeffers	4	Moraines	Yes	2B3
	Pell Creek	1	Moraines	Yes	2B3
<b>L235A:</b>					
Riverston clay loam, 0 to 2 percent slopes, occasionally flooded	Riverston, occasionally flooded	85	Flood plains	Yes	2B3
	Poorly drained soils, occasionally flooded	10	Flood plains	Yes	2B3
	Havelock, occasionally flooded	2	Flood plains	Yes	2B3
	Shandep, occasionally flooded	2	Flood plains	Yes	2B3
	Spillville, occasionally flooded	1	Flood plains	No	---
<b>L236A:</b>					
Shandep clay loam, depressional, 0 to 1 percent slopes	Shandep, depressional	90	Outwash plains, Stream terraces	Yes	2B3, 3
	Darfur	4	Outwash plains, Stream terraces	Yes	2B3
	Biscay, depressional	3	Outwash plains, Stream terraces	Yes	2B3, 3
	Fieldon	2	Outwash plains, Stream terraces	Yes	2B3
	Mayer	1	Outwash plains, Stream terraces	Yes	2B3



# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L238A:</b>					
Webster-Delft complex, 0 to 3 percent slopes	Webster	55	Moraines	Yes	2B3
	Delft	30	Moraines	Yes	2B3
	Canisteo	5	Moraines	Yes	2B3
	Glencoe, depressional	5	Moraines	Yes	2B3, 3
	Delft, overwash	3	Moraines	No	---
	Nicollet	2	Moraines	No	---
<b>L239A:</b>					
Revere clay loam, 0 to 2 percent slopes	Revere	90	Moraines	Yes	2B3
	Glencoe, depressional	6	Moraines	Yes	2B3, 3
	Canisteo	2	Moraines	Yes	2B3
	Seaforth	1	Moraines	No	---
	Webster	1	Moraines	Yes	2B3
<b>L240A:</b>					
Shandep mucky loam, ponded, 0 to 1 percent slopes	Shandep, ponded	85	Outwash plains, Stream terraces	Yes	2B3, 3
	Biscay, ponded	6	Outwash plains, Stream terraces	Yes	2B3, 3
	Mayer	5	Outwash plains, Stream terraces	Yes	2B3
	Biscay	4	Outwash plains, Stream terraces	Yes	2B3
<b>L241B:</b>					
Dickinson fine sandy loam, firm till substratum, 1 to 6 percent slopes	Dickinson, firm till substratum	85	Moraines	No	---
	Lowlein, firm till substratum	12	Moraines	No	---
	Dickman	2	Moraines	No	---
	Walnut Grove	1	Moraines	No	---

## Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L242B:</b>					
Terril loam, firm till substratum, 2 to 6 percent slopes	Terril, firm till substratum	90	Moraines	No	---
	Annton	5	Moraines	No	---
	Romnell	5	Moraines	Yes	2B3
<b>L245A:</b>					
Shandep loam, 0 to 2 percent slopes	Shandep	80	Outwash plains, Stream terraces	Yes	2B3
	Poorly drained soils	10	Outwash plains, Stream terraces	Yes	2B3
	Shandep, depressional	5	Outwash plains, Stream terraces	Yes	2B3, 3
	Biscay	3	Outwash plains, Stream terraces	Yes	2B3
	Linder	2	Outwash plains, Stream terraces	No	---
<b>L248B:</b>					
Annton-Swanlake, firm till, complex, 3 to 6 percent slopes	Annton	55	Moraines	No	---
	Swanlake, firm till	35	Moraines	No	---
	Walnut Grove	5	Moraines	No	---
	Moines	2	Moraines	No	---
	Storden, moderately eroded, firm till substratum	2	Moraines	No	---
	Pell Creek	1	Moraines	Yes	2B3
<b>L249A:</b>					
Knoke silty clay loam, firm till substratum, depressional, 0 to 1 percent slopes	Knoke, firm till substratum, depressional	85	Moraines	Yes	2B3, 3
	Romnell, depressional	10	Moraines	Yes	2B3, 3
	Jeffers	5	Moraines	Yes	2B3

# Hydric Soils

Cottonwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>L255D2:</b>					
Storden-Ves complex, 12 to 18 percent slopes, moderately eroded	Storden, moderately eroded	60	Moraines	No	---
	Ves, moderately eroded	25	Moraines	No	---
	Terril	10	Moraines	No	---
	Delft	3	Moraines	Yes	2B3
	Ridgeton	2	Moraines	No	---
<b>L256D2:</b>					
Storden-Ves-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded	Storden, moderately eroded	40	Moraines	No	---
	Pilot Grove	25	Moraines	No	---
	Ves, moderately eroded	25	Moraines	No	---
	Ridgeton	4	Moraines	No	---
	Delft	2	Moraines	Yes	2B3
	Hawick	2	Moraines	No	---
	Terril	2	Moraines	No	---
<b>L257A:</b>					
Blue Earth mucky silt loam, sandy substratum, depressional, 0 to 1 percent slopes	Blue Earth, depressional, sandy substratum	85	Outwash plains	Yes	2B3, 3
	Very poorly drained soils, depressional	10	Outwash plains	Yes	2B3, 3
	Mayer	5	Outwash plains	Yes	2B3
<b>M-W:</b>					
Water, miscellaneous	Water, miscellaneous	100	---	Unranked	---
<b>W:</b>					
Water	Water	100	---	Unranked	---

## Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

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